

REMARKS

In the Office Action mailed from the United States Patent and Trademark Office on December 22, 2005, the Examiner rejected claims 1-27.

Objections

In the Office Action, the Examiner objected to claims 22 and 27. Class 22 has been withdrawn. Claim 27 has been amended in accordance with the Examiner's suggestions.

Rejections under 35 U.S.C. § 112

In the Office Action, the Examiner rejected claims 1-27 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully traverse.

The term "toggle switch" is defined as a switch that toggles between at least two states.

With respect to claim 1, the Examiner states that it is unclear what the "movement characteristics of ... distance" is referring. The movement characteristic of distance refers to both an approximate distance away from the switch (without contact) and the movement distance to effectuate the switching. Therefore, the "independent movements" must approximately conform to be a particular distance away from the switch and require a particular movement distance.

With respect to claims 1, 10, and 15, the Examiner indicates that conventional toggle switches do not "respond" to movements since they do not contain optical components. Applicants disagree, conventional toggle switches "respond" to movements but do not "detect" or "sense" movements. For example, moving one's finger upward on the toggle bar of a

conventional toggle switch (movement) causes the conventional toggle switch to respond by completing an electrical circuit. The term “respond” does not require that a movement is “detected”, it simply refers to the reaction to a particular movement. Conventional toggle switches respond to movements that conform to certain narrow characteristics.

With respect to claims 21 and 22, the Examiner indicates that “an opposite substantially linear movement” is unclear and that there is no antecedent basis for “the substantially linear movement”. Claims 21 and 22 have been withdrawn.

With respect to claim 27, the Examiner indicates that the “on dimming movement” and “off dimming movement” are unclear. Claim 27 states that an “on dimming movement causes the electrical switching element to reduce resistance” and that an “off dimming movement causes the electrical switching element to increase resistance”. The described switch may be coupled to any electrical device and therefore it is inappropriate to describe the function of the switch in terms of a light response. If the switch is coupled to a light, a reduction in resistance will cause the light to brighten whereas an increase in resistance will cause the light to dim.

Rejections under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 1, 5, 9, 21, 23, and 24-27 under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,973,608 to McMahon et al. (hereinafter McMahon). Applicants respectfully traverse. The standard for a Section 102 rejection is set forth in M.P.E.P 706.02, which provides:

“... for anticipation under 35 U.S.C. 102, the reference **must teach every aspect of the claimed invention** either explicitly or impliedly. Any feature not directly taught must be inherently present.”

McMahon fails to teach every element of the claimed inventions as required for a 102(b) rejection. In particular, McMahon fails to teach a motion detection element consistent with the limitations of claim 1. Independent claim 1 includes the following limitation relating to detection of particular movements:

a **motion detection element** configured to detect two independent movements which **mimic the movements required to physically switch a conventional toggle switch**, wherein the mimicking includes the movement characteristics of duration, direction, and distance". Claim 1, 2nd paragraph.

McMahon teaches a system that detects **proximity** rather than movement using a capacitive coupling device. "As the **hand nears the unit**, the capacitive coupling will change and the unit will be activated". McMahon, Summary of the invention, column 1, Lines 48-50. The motion of moving the hand towards the switch does not in any way correspond to the movement associated with switching a conventional toggle switch. Therefore, the detection of an increased proximity does not teach the detection of a movement which "mimics the movements required to physically switch a conventional toggle switch". "In order to activate control unit 10 or 11 ... a hand (or any part of the body) must **come within a predetermined distance** of the unit ...". McMahon, Column 2, Lines 44-47. McMahon does not teach or even suggest a "motion detection element" which is configured to detect movements which "mimic the movements required to physically switch a conventional toggle switch". Applicants request that the Examiner provide a detailed analysis illustrating how McMahon teaches every one of the limitations contained within claim 1.

In addition, claim 1 includes limitations relating to responding to particular detected movements. In particular claim 1 includes:

if the motion detection element detects one of the two movements, causing the electronic switching element to switch between a first and second electrical state

in a manner which corresponds to how a conventional toggle switch would operate in response to the detected movement. Claim 1, 3rd paragraph.

The switch taught by McMahon fails to teach or even suggest switching between electrical states in a manner which corresponds to how a conventional toggle switch would respond to the detected movement. **For a switch to electrically switch states or respond (turn on or off) to a particular movement, it must be able to detect/differentiate that movement from other movements.** Therefore, even if a switch can detect a broad range of movements which includes mimicked movements, it will not properly respond if it cannot differentiate between the specific movements in the manner described in the claimed inventions. For example, a conventional toggle switch would ONLY turn on in response to a very particular upward movement. Rather, McMahon teaches a switch which turns on when a hand is located in close proximity to the switch. Locating a hand in close proximity to a conventional toggle switch would not cause any response (ie. light would stay on/off). Whereas, moving a finger in an upward direction, a particular distance away from the switch, would cause a conventional toggle switch to turn on because it would force the toggle bar upward. Therefore, even if the switch in McMahon can detect movements which are often required to operate a conventional toggle switch (moving a hand closer), it will not properly **respond** because it cannot differentiate between moving a hand closer to activate a switch and moving a hand closer for some other purpose.

The Examiner states, "McMahon fails to expressly disclose a motion detection element". As cited above, a reference must teach every aspect of the claim in order to for a rejection under 35 U.S.C. 102(b) to be proper. Likewise, Applicants do not understand the relevance of "it is well known in the art that there are switches that turn on and off lighting loads via pushing in the switch".

For at least the reasons stated above, Applicants request that the rejection of claim 1 as being anticipated by McMahon be withdrawn. Likewise, claims 5, 9, 21, 23, and 24-27 are dependent from claim 1 and are therefore allowable for at least the same reasons.

Rejections under 35 U.S.C. § 103

1. Walthall

In the Office Action, the Examiner rejected claims 1-8 under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,305,006 to Walthall (hereinafter Walthall). Applicants respectfully traverse.

To establish a *prima facie* case of obviousness, three criteria must be met. First, there must be some suggestion or motivation . . . to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. **Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.** MPEP 2142. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. *In re John R. Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992). Any such suggestion must be found in the prior art, and not based on applicants disclosure. *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991). A clear and particular showing of the suggestion to combine is required to support an obviousness rejection under Section 103. *Id.* For the reasons set forth below, Applicants submit that the prior art fails both to teach or suggest all the claim limitations, and to clearly and particularly suggest the combinations indicated by the Examiner; thus, Applicants claims are not obvious in view of the prior art references.

Applicants request that the Examiner provide a detailed analysis explaining how Walthall teaches all of the limitations of claim 1. A detailed discussion of why Walthall fails to teach the claimed invention was included in the previous Amendment and Response but was not addressed by the Examiner. Without a clear discussion of how Walthall (or any reference) teaches **all** of the limitations in the claimed invention, it is very difficult for the Applicant to make effective arguments distinguishing the claimed invention from the cited reference. The Examiner appears to merely address one or two limitations of claim 1 but states that the “previous arguments are moot”.

The Examiner cites col. 1, lines 47-59 which is a paragraph in the summary of Walthall which discusses having two switches for detecting downward and upward movements. The Examiner also cites col. 3, lines 18-21 which also describes “passing one’s hand (or other object) about three or four inches directly in front of the emitter”. The Examiner also cites col. 3, Lines 42-60 which describes operating the switch in Walthall. These sections do not illustrate that Walthall teaches the limitations included in claim 1. Please clarify which sections of Walthall teach each and every limitation in claim 1. The mere fact that Walthall teaches as “motion detection element” does not mean that it teaches a “a motion detection element **configured to detect two independent movements which mimic the movements required to physically switch a conventional toggle switch, wherein the mimicking includes the movement characteristics of duration, direction, and distance**”. The bolded section is part of the element and must also be taught in order to sustain the rejection.

As stated in the previous Amendment and Response, Walthall teaches a touchless switch which responds to various movements which **may** include mimicked movements. However, Walthall does not teach a touchless switch which **selectively detects** the mimicked movements

of the type described in the claim (including mimicking the movement characteristics of duration, direction, and distance). By not selectively detecting these types of movements, the devices taught by Walthall and Endruschat **will respond to other movements** and therefore will NOT respond in a “manner which corresponds to how a conventional toggle switch would operate in response to the detected movement”. Walthall is also not a “toggle” switch but rather a complex electrical switch designed to handle multiple loads and additional functions. In addition, Walthall does not teach a system that is capable of recognizing the “movement characteristic” **duration** and therefore cannot selectively detect movements which include a duration characteristic associated with how a conventional toggle switch is operated. For example, a certain amount of time is necessary to switch a conventional toggle switch and for a movement to mimic this duration, the movement must be performed in a similar amount of time. If a device, such as the one taught by Walthall, does not detect duration, it will respond (ie. switch on and off) to movements that may not have been intended by the user (ie. waving goodbye to a friend).

Likewise, claim 1 is further distinguishable in how the switch electrically **RESPONDS** to detected movements (ie. switching on/off after a particular movement). Claim 1 includes, “if the motion detection element detects one of the two movements, causing the **electronic switching element to switch** between a first and second electrical state in a **manner which corresponds to how a conventional toggle switch would operate in response to the detected movement.**” This language is directed at constraining the electrical response of the switch. **For a switch to electrically switch states or respond (turn on or off) to a particular movement, it must be able to detect/differentiate that movement from other movements.** Walthall does not teach a switch which is configured to respond in a manner which corresponds to the type of movement

initiating the response. For Example, Walthall teaches “if bulb 51 is off one **can turn it on** without affecting the dimming circuitry to the right of line 91, by **moving one’s hand downward** in front of D1, Q2, D1””. If a conventional toggle switch were off, it would remain off if a downward force was imposed on it. Therefore, Walthall does not teach a switch which switches in a manner which “corresponds to how a conventional toggle switch would operate in response to the mimicked movement”.

For at least these reasons, Applicants respectfully request that the Examiner withdraw the rejections of claim 1 under 35 U.S.C. 103(a). Claims 2-8 are dependent from claim 1 and are therefore allowable for at least the same reasons.

2. Endruschat + Walthall

In the Office Action, the Examiner rejected claims 10-13, 18, and 19 under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,594,238 to Endruschat (hereinafter Endruschat) in view of Walthall. Applicants respectfully traverse.

The Examiner states, “Endruschat further discloses the switch can determine the difference between a toggle motion (hand sweeping in front of the switch) and a non-toggle motion (inadvertent stepping in front of the switch), thus mimicking the movement of physically switching a convention switch”. Office Action page 7. Applicants disagree that “hand sweeping in front of a switch” teaches the limitation of claim 10, “detection of movement which mimics a movement required to physically switch a conventional toggle switch, wherein the mimicking includes movement characteristics of duration, direction, and distance ...”. The movements that switch a physical toggle switch are much NARROWER than “hand sweeping in front of a switch”. For example, if the hand sweeping is in the wrong direction (horizontal), the switch

will not operate. Likewise, if the hand sweeping is not at a particular distance from the switch, the switch will not operate. And finally, if the hand sweeping is performed at a rate (too fast or too slow) it will not mimic the movements required to switch a physical switch.

In addition to detecting particular movements, claim 10 includes limitations relating to responding to particular movements. **For a switch to electrically switch states or respond (turn on or off) to a particular movement, it must be able to detect/differentiate that movement from other movements.** Even if Endruschat is capable of detecting mimicked movements, it still fails to teach a switch which will properly respond because it cannot differentiate the mimicked movements from other “hand sweeping”. Claim 10 includes the limitation, “wherein the state of the electronic switching element is changed in a manner which corresponds to how a conventional toggle switch **would respond to the detected movement**”.

The Examiner goes on to state, it would be obvious to a person of ordinary skill in the art to have the system of Endruschat detect motions in the same direction as those of a conventional switch. The Examiner further indicates that the teachings of Walthall could also be applied for the detection of direction. As was discussed above and in the previous Amendment and Response, merely detecting direction and “hand sweeping” does not detect movements which mimic a “movement required to physically switch a conventional toggle switch, wherein the mimicking includes movement characteristics of duration, direction, and distance ...”. Therefore, the proposed combination fails to teach every element of claim 10 as required.

For at least these reasons, Applicants respectfully request that the Examiner withdraw the rejections of claim 10 under 35 U.S.C. 103(a). Claims 11-13 are dependent from claim 1 and are therefore allowable for at least the same reasons described above. Claims 18 and 19 are dependent from claim 15 and are allowable for at least the same reasons described below.

3. Endruschat

In the Office Action, the Examiner rejected claims 1, 15-17, 21, and 22 under 35 U.S.C. 103(a) as being unpatentable over Endruschat. Applicants respectfully traverse.

The Examiner continues to state that by teaching a “sweeping hand motion” or “toggle movement”, Endruschat is teaching a movement which mimics a movement required to physically switch a conventional toggle switch. Applicants disagree. As discussed above, the movements required to **physically** switch a conventional toggle switch are constrained to a certain narrow set of characteristics such as distance, duration, and direction. “hand sweeping” or even “toggle movement” are broad terms which include many different types of movement. Part of the novelty of the claimed invention lies in **ONLY** operating (ie. turning on/off) the switch in response to a **NARROW** set of movements which **MIMIC** the narrow set of physical movements required to operate a conventional toggle switch. This is very different from a switch that operates in response to a **BROAD** set of movements which include mimicked movements. Even if the detection features of Endruschat and Walthall are somehow combined, the combination does not specifically teach the limitations of the claimed invention and therefore fails to meet the requires for a *prima facie* case of obviousness.

Claims 1, 10 and 15 each include limitations which **NARROW** the detected movements, causing the switch to respond to **ONLY** those movements which “mimic a movement required to physically switch a conventional toggle switch, wherein the mimicking includes the movement characteristics of duration, direction, and distance”. None of the cited references alone or in combination anticipate, teach, or even suggest this limitation. Nor is it obvious to **CONSTRAIN**

a switch to only respond to these movements, a significant amount of technical components must be utilized to provide this functionality.

For at least these reasons, Applicants respectfully request that the Examiner withdraw the rejections of claims 1 and 15 under 35 U.S.C. 103(a). Claims 16-17, 21, and 23 are dependent from claims 1 or 15 and are therefore allowable for at least the same reasons described above. Claims 18 and 19 are also dependent from claim 15 and are allowable for at least the same reasons.

4. Endruschat + Walthall + Lang

In the Office Action, the Examiner rejected claim 14 under 35 U.S.C. 103(a) as being unpatentable over Endruschat in view of Walthall and further in view of Lang. Applicants respectfully traverse. Claim 14 is dependent from claim 1 and is therefore allowable for at least the same reasons described above.

5. Endruschat + Lang

In the Office Action, the Examiner rejected claim 20 under 35 U.S.C. 103(a) as being unpatentable over Endruschat in view of Walthall and further in view of Lang. Applicants respectfully traverse. Claim 20 is dependent from claim 15 and is therefore allowable for at least the same reasons described above.

CONCLUSION

Applicants submit that the amendments made herein do not add new matter and that the claims are now in condition for allowance. Accordingly, Applicants request favorable reconsideration. If the Examiner has any questions or concerns regarding this communication, the Examiner is invited to call or email the undersigned.

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Respectfully submitted,



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